

## REMARKS

Applicant wishes to thank the Examiner for considering the present application. In the Office Action dated November 30, 2004, Claims 1-8, 10-13 and 15-31 are pending in the application. Applicant respectfully requests the Examiner for reconsideration.

Claims 1, 3-7, 10-13, 15-17 and 28-31 stand rejected under 35 USC §103(a) as being unpatentable over *Pizzicaroli* (5,813,634) in view of *Brown* (6,157,621). Applicant respectfully traverses.

Claim 1 is directed to a satellite system that has at least one reconfigurable satellite. That is, one reconfigurable satellite may be positioned into the place of another satellite. This is desirable, for example, when one satellite is malfunctioning or is about to run out of fuel. The reconfigurable satellite has a routing table storing tuning information therein and a controller located on the satellite coupled to the communications control circuit. The controller controls the frequency reconfiguration of the communications control circuit through the programmable frequency synthesizer in response to the tuning information from the routing table. Claim 15 is similar to Claim 1 in that a reconfiguration circuit is described having a routing table and a programmable frequency synthesizer are recited.

With respect to *Pizzicaroli*, Applicant agrees with the Examiner that *Pizzicaroli* does not teach the programmable frequency synthesizer and the routing table storing tuning information. The *Pizzicaroli* reference is also substantially different than that of the present invention. The *Pizzicaroli* reference is merely concerned with moving a spare satellite in service to replace a failing satellite. Applicant can find no teaching or suggestion that the type of satellite that is a spare satellite is different than the one being replaced. That is, Applicant respectfully submits that the spare satellite would be programmed to the same frequencies for communication as the satellite it replaces. One advantage of the present application is that the satellite is reconfigurable in response to the tuning information in the routing table and the programmable frequency synthesizer. The Examiner points to Col. 4,

lines 34-43, for the teaching of tables. Although the word table is mentioned, no teaching or suggestion is provided in this passage for a routing table and a programmable frequency synthesizer. Again, it appears that the *Pizzicaroli* reference merely teaches replacement of a failing satellite.

The Examiner cites the *Brown* reference for teaching a routing table having the synthesizer tuning information. Applicant respectfully submits that the *Brown* reference does not teach nor suggest a routing table having tuning information to control the frequency reconfiguration of the control circuit. Admittedly, the *Brown* reference teaches a routing table. However, the routing table is a conventional routing table that is used to store the desired path of the communication. The *Brown* reference is directed to a satellite communication system that includes about 840 satellites in low earth orbit satellite that intercommunicate. On page 3 the Examiner states, "Brown considers the utilization of the on-board computer, the adaptive routing processor for selecting the best route pathway according to routing table." The Applicant has reviewed the section cited by the Examiner and has found no teaching or suggestion of a routing table changing the frequency reconfiguration of the communication control circuit through the programmable synthesizer. Applicant respectfully submits that the routing cache memory is merely a standard routing table that communicates the route of the signal to the next satellite in the system. In Col. 43 of the *Brown* reference it is stated that, "Hardware and software that are collectively called the 'router' must continually adapt to the changing topology. The time varying network topology is irregular, unlike conventional regular networks that utilize ring, cube or star topologies." As further stated in Col. 43, line 24: "The network topology also changes when new satellites are deployed, when the useful lives of old satellites come to an end, or when satellite and link failures occur. The traffic density or 'load' on links changes randomly due to normal traffic fluctuations." While it is contemplated that new satellites are to be deployed into the system or that old satellites will ultimately fail, no teaching or suggestion is provided for frequency reconfiguration. As is stated in Col. 44, lines 32-35: "The constellation uses the 20

and 30 GHz frequency bands for communications between Earth and the constellation, and the 60 GHz band for communicating among the satellites." Thus, no teaching or suggestion is provided for changing the frequency of communication. When one satellite is deployed it follows that no reconfiguration of the frequencies associated therewith need be performed since the frequencies remain the same. That is, choosing a routing path is not the same as changing the frequency of the programmable frequency synthesizer.

Because neither the *Pizzicaroli* reference nor the *Brown* reference teaches or suggests that the controller controls the frequency reconfiguration of the communications control circuit through the programmable frequency synthesizer in response to the tuning information from the routing table, Applicant therefore respectfully requests the Examiner to reconsider the rejection of Claim 1. Claim 15 is similar and therefore should also be allowable for the same reasons set forth above. Likewise, Claims 3-7, 10-13 and 16-17 depend from either Claims 1 or 15 and are therefore allowable for the same reasons set forth above.

Claim 28 is similarly directed to a method of reconfiguring the frequency configuration of the satellite. Claims 29-31 are further limitations of Claim 28 and are also believed to be allowable for the same reasons.

Claim 2 stands rejected under 35 USC §103(a) as being unpatentable over *Pizzicaroli* in view of *Wiswell* (6,205,319). Claim 8 stands rejected under 35 USC §103(a) as being unpatentable over *Pizzicaroli* in view of *Galvin* (6,182,927). Applicant respectfully traverses.

None of the reference teaches or suggest storing the tuning information in a routing table then using that information to do the reconfiguring.

Claims 18-20 stand rejected under 35 USC §103(a) as being unpatentable over *Pizzicaroli* in view of *Reesor* (4,472,720). Applicant respectfully traverses.

Claims 18-20 are directed to a method for configuring a satellite system. The system uses a reconfigurable satellite that has reconfiguration instructions

transmitted thereto. Claims 18 and 28 recite that reconfiguring the frequency configuration of the reconfigurable satellite is performed in response to tuning information in a routing table.

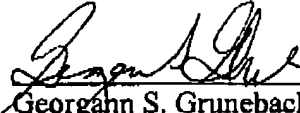
The Examiner has cited the *Reesor* reference for the teaching of repositioning a satellite. Although the *Reesor* reference teaches repositioning a satellite, the repositioning is only a slight repositioning in response to a correction signal transmitted by a ground station transmitter means. The resource system is a system of geosynchronous satellites that may be adjusted during the operation to maintain a relative position therebetween. The satellites always maintain a generally similar position. The payload in *Reesor* thus does not need to be configured.

Therefore, no teaching or suggestion is provided in the *Reesor* reference for replacing one satellite with another as well as reconfiguring a payload. Likewise, Claims 19-20 are further limitations of Claim 18 and are also believed to be allowable for the same reasons set forth above.

Claims 21-27 stand rejected under 35 USC §103(a) as being unpatentable over *Pizzicaroli* in view of *Reesor* (4,472,720) in further view of *Brown*. Applicant respectfully traverses. Claims 21-27 are further limitations of Claim 18 and are also believed to be allowable for the same reasons set forth above.

In light of the above amendments and remarks, Applicant submits that all objections and rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,



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